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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,349	04/09/2004	Karl Schrodinger	MAIKP172US	9998
51092 7590 06/01/2007 ESCHWEILER & ASSOCIATES LLC 629 EUCLID AVENUE, SUITE 1000 NATIONAL CITY BUILDING CLEVELAND, OH 44114			EXAMINER WONG, LINDA	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 06/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,349

Applicant(s)

SCHRODINGER, KARL

Examiner

Linda Wong

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,9-13,15-17 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 3-8,14,18,19 and 23-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Fig. 1 and Fig. 3 are objected to because written labels describing each component in the invention is not provided. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. **Claim 2** is objected to because of the following informalities:

- a. **Claim 2** recites the limitation "the data correlator receives a received signal including one of the data signal and an amplified data signal". Based on the drawing, Fig. 1, the data correlator, label 70, receives the amplified data signal only. Furthermore, the limitations indicates the "at least data signal and an amplified data signal" is amplified. Thus, the input to the correlator would be an amplified data signal. It seems to the examiner the indicated recited limitation is redundant. Is it the applicant's intention to further emphasis the input signal to the data correlator is an amplified signal or is the claimed limitation just indicating a data signal is amplified and inputted in the data correlator?

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1,11** are rejected under 35 U.S.C. 102(b) as being anticipated by Yu et al (US Patent No.: 7200336).
 - a. **Claim 1**, Yu et al discloses

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- “at least one amplifier device for amplification of a data signal which is applied to an input terminal of the receiver circuit” (Fig. 5, label 515, Col. 8, line 28) and
- “a control device for measuring a data rate of the data signal, and for setting a bandwidth of the amplifier device such that the bandwidth of the amplifier device corresponds to the data rate of the data signal”. (Fig. 5, labels 580 and 518)

b. **Claim 11**, Yu et al discloses

- “amplifying a data signal using an amplifier device to form an amplified data signal” (Fig. 5, label 515, Col. 8, line 28)
- “measuring a data rate of at least one of the data signal and the amplified data signal, and (Fig. 5, label 580, Col. 8, line 34)
- “setting a bandwidth of the amplifier device such that the bandwidth of the amplifier device corresponds to the measured data rate”. (Fig. 5, label 518, Col. 8, line 41)

4. **Claims 20,21,22** are rejected under 35 U.S.C. 102(b) as being anticipated by Komori et al (US Publication No.: 20040037378).

a. **Claim 20**,

- i. Komori et al discloses

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- "subjecting the data signal to autocorrelation such that at least one digital correlation signal is formed" (Fig. 1, labels 101,104,105, paragraphs 0150,0164,0168)
- "subjecting the at least one digital correlation signal to averaging over time" (paragraph 0164,0167,0168 discloses the burst detection determines the amount of burst and correlates the delayed signal with the data signal for the period, wherein the period incorporates the front half 5 periods and rear half 5 periods and
- "utilizing the time mean value to produce a data rate measurement signal which characterizes the data rate of the data signal". (By calculating the average of the data bursts within periods as disclosed in paragraphs 0164,0167,0168, the data rate, which is the calculation of amount of data within a period or time cycle is calculated. Since the calculation as disclosed in paragraphs 0164,0167,0168 is determined using the amplified signal as shown in Fig. 1, labels 101,104,105, the data rate is determined using the amplified data signal.)

b. Claim 21,

i. Komori et al discloses

- "phase-shifting the data signal, thereby forming at least one phase-shifted auxiliary signal", (Fig. 1, label 104) and

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- “correlating the data signal and the at least one phase-shifted auxiliary signal to form the at least one correlation signal”. (Fig. 1, label 104,105, paragraphs 0150,0164,0167,0168)
- c. **Claim 22,**
- i. Komori et al discloses
 - “using the time mean value of the at least one correlation signal to produce a binary threshold value signal which indicates whether the time mean value of the at least one correlation signal is less than or greater than a predetermined threshold value” (Fig. 11, label 20921 compares the autocorrelation to some value)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2,12,13,15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shu et al as applied to claim 1, in view of Komori et al (US Publication No.: 20040037378).

- a. **Claim 2,**
- i. Yu et al fails to disclose

- A. "a data correlator having an input terminal connected to said at least one amplifier device such that the data correlator receives a received signal including one of the data signal and an amplified data signal, which has been amplified by the amplifier device"
 - B. "the data correlator includes means for generating, in response to the received data signal, at least one phase-shifted auxiliary signal"
 - C. "the data correlator also includes means for subjecting the received data signal and the at least one phase-shifted auxiliary signal to correlation"
 - D. "the data correlator also includes means for producing at least one correlation signal, which corresponds to the autocorrelation, on an output terminal of the data correlator".
- ii. Komori et al discloses such limitations. (**Limitation A:** Fig. 1, label 105, Fig. 2, label 209, Fig. 1, output from amplifier label 101, Fig. 2, output from label 201, **Limitation B:** Fig. 1, label 104 delays the amplified signal such that the delay would have a different phase from the input to the delay, Fig. 2, label 208, **Limitation C:** paragraphs 16,17,150,164,168 and **Limitation D:** Fig. 1, label s105, Fig. 2, label s209w) It would have been obvious to one skilled in the art at the time of the invention to incorporate data correlator as disclosed by Komori et al into Yu et al's invention so to provide an automatic gain control circuit able to realize high speed, accurate level acquisition and prevent error. (paragraph 27)
- b. **Claim 12,**

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i. Komori et al discloses

- "forming at least one digital correlation signal by subjecting said one of the amplified data signal and the data signal to autocorrelation" (Fig. 1, labels 101,104,105, paragraphs 0150,0164,0168)
- "averaging the at least one digital correlation signal over time" (paragraph 0164,0167,0168 discloses the burst detection determines the amount of burst and correlates the delayed signal with the data signal for the period, wherein the period incorporates the front half 5 periods and rear half 5 periods), and
- "utilizing the time mean value to produce a data rate measurement signal which characterizes the data rate of said one of the amplified data signal and the data signal" (By calculating the average of the data bursts within periods as disclosed in paragraphs 0164,0167,0168, the data rate, which is the calculation of amount of data within a period or time cycle is calculated. Since the calculation as disclosed in paragraphs 0164,0167,0168 is determined using the amplified signal as shown in Fig. 1, labels 101,104,105, the data rate is determined using the amplified data signal.) It would have been obvious to one skilled in the art to incorporate data correlator as disclosed by Komori et al into Yu et al's invention so to provide an automatic gain control circuit able to realize high speed, accurate level acquisition and prevent error. (paragraph 27)

c. **Claim 13,**

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- i. Yu et al fails to disclose
 - A. "for ming at least one phase-shifted auxiliary signal by phase-shifting said one of the amplified data signal and the data signal" and
 - B. "correlating said on e of the amplified data signal and the data signal and the at least one phase-shifted auxiliary signal, thereby forming the at least one correlation signal"
 - ii. Komori et al discloses such limitations. (**Limitation A:** Fig. 1, label 104 and **Limitation B:** Fig. 1, label 104,105, paragraphs 0150,0164,0167,0168) It would have been obvious to one skilled in the art to incorporate data correlator as disclosed by Komori et al into Yu et al's invention so to provide an automatic gain control circuit able to realize high speed, accurate level acquisition and prevent error. (paragraph 27)
- d. **Claim 15,**
- i. Yu et al fails to disclose
 - "using the time mean value of the at least one correlation signal to produce a binary threshold value signal which indicates whether the time mean value of the at least one correlation signal is less than or greater than a predetermined threshold value"
 - ii. Komori et al discloses such a limitation. (Fig. 11, label 20921 compares the autocorrelation to some value) It would have been obvious to one skilled in the art to incorporate such a limitation as disclosed by Komori et al into Yu et al's invention so to provide an automatic gain control circuit able to

realize high speed, accurate level acquisition and prevent error. (paragraph 27)

6. **Claims 16,17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al in view of Komori et al as applied to claim 15, further in view of Ciccarelli (US Publication No.: 20040142670).

a. **Claim 16,**

- i. Yu et al in view of Komori et al fails to disclose
 - “forming the time mean value of each of the at least one correlation signals using a low pass filter”.
- ii. Ciccarelli discloses such a limitation. (Fig. 1, label 122) It would have been obvious to one skilled in the art at the time of the invention to incorporate a low pass filter to filter the correlation signal as disclosed by Ciccarelli into Yu et al in view of Komori et al's inventions so to filter any noise or interference found in the correlation signal.

b. **Claim 17,**

- i. Komori et al discloses “forming the threshold value signal using a comparator, by applying the time mean value of the correlation signal as well as the predetermined threshold value to said comparator. (Fig. 11, label 20921, output from 20917 as the correlation signal and output from label 20919 as the predetermined threshold value.)

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7. **Claims 9,10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al as applied to claim 1, in view of Ciccarelli (US Publication No.: 20040142670).

a. **Claim 9,**

- i. Yu et al fails to disclose “a switching apparatus for switching the noise and for varying the noise response of the amplifier device”.
- ii. Ciccarelli discloses such a limitation. (Fig. 4, claim 21, Fig. 9, label 902, paragraph 32-35) It would be obvious to one skilled in the art to incorporate such a limitation into Yu et al’s invention so to reduce the power of consumption in an amplifier.

b. **Claim 10,**

- i. Yu et al fails to disclose “the switching apparatus comprises means for optimizing a sensitivity of the receiver circuit by at least one of switching and varying an operating point of the amplifier device”.
- ii. Ciccarelli discloses such a limitation. (Fig. 4, claim 21, Fig. 9, label 902, paragraph 32-35) It would be obvious to one skilled in the art to incorporate such a limitation into Yu et al’s invention so to reduce the power of consumption in an amplifier.

Allowable Subject Matter

8. **Claims 3-8,14,18-19,23-27** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

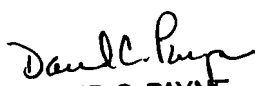
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044.

The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Linda Wong
5/12/2007


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